

Reference Guide

HP StorageWorks Replication Solutions Manager Command Line User Interface

Version 1.0

First Edition
(December 2004)

Part Number:AA-RW1FA-TE

This guide describes the Replication Solutions Manager command line user interface for the HP StorageWorks Enterprise Virtual Array.

For the latest version of this document and other storage system documentation, visit the HP storage Web site at:
<http://welcome.hp.com/country/us/eng/prodserv/storage.html>.



i n v e n t

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Table of Contents

About this Guide	9
Overview	9
Intended audience	9
Related documentation	9
Conventions	11
Document conventions	11
Symbols used in command descriptions	11
Text symbols	12
Getting help	13
HP storage web site	13
1. About the Replication Solutions Manager Command Line User Interface	15
Installing the CLUI	15
Configuring the CLUI	15
Accessing the CLUI	15
Using a Telnet session	15
Using the GUI	16
Using a user-written client	16
Sample Telnet client using Perl	16
Sample Socket client using Perl	17
Sample SSL client using Perl	19
CLUI architecture	21
2. Command Descriptions	23
ADD DR_GROUP	25
Synopsis	25
Description	25
Switches	25
Example	25
ADD HOST_AGENT	26
Synopsis	26
Description	26
Switches	26
Example	26
ADD MANAGED_SET	27
Synopsis	27
Description	27
Switches	27
CAPTURE CONFIG_DATA	28
Synopsis	28
Description	28
CAPTURE SYSTEM_DATA	29
Synopsis	29
Description	29

DELETE DR_GROUP	30
Synopsis	30
Description	30
Switches	30
Example	30
DELETE HOST_AGENT	31
Synopsis	31
Description	31
Switches	31
Example	31
DELETE JOB	32
Synopsis	32
Description	32
DELETE VDISK	33
Synopsis	33
Description	33
DELETE MANAGED_SET	34
Synopsis	34
Description	34
EXIT	35
Synopsis	35
Description	35
HELP	36
Synopsis	36
Description	36
LOGIN	37
Synopsis	37
Description	37
Switches	37
SELECT HOST_AGENT	38
Synopsis	38
Description	38
Switches	38
Example	38
SELECT SYSTEM	39
Synopsis	39
Description	39
Switches	39
Example	39
SET CLIENT	40
Synopsis	40
Description	40
Switches	40
Examples	40
Block text format	40
CSV format	40
Result code format	40
Table text format	40
XML format	41
SET DR_GROUP	42
Synopsis	42
Description	42
Switches	42

Example	43
SET HOST_AGENT	44
Synopsis	44
Description	44
Switches	44
SET JOB	45
Synopsis	45
Description	45
Switches	45
SET MANAGED_SET	46
Synopsis	46
Description	46
Switches	46
SHOW DR_GROUP	47
Synopsis	47
Description	47
Switches	47
Example	47
SHOW HOST_AGENT	48
Synopsis	48
Description	48
Switches	48
Example	48
SHOW HOST_VOLUME	49
Synopsis	49
Description	49
Switches	49
SHOW JOB	50
Synopsis	50
Description	50
Switches	50
SHOW MANAGED_SET	51
Synopsis	51
Description	51
Switches	51
SHOW SYSTEM	52
Synopsis	52
Description	52
Switches	52
SHOW VDISK	53
Synopsis	53
Description	53
Switches	53
A. XML Command Response Format	55
B. CLUI Handler XML Configuration File	57
Index	59

List of Tables

1. Document conventions 11

About this Guide

This reference guide provides information to help you:

- Issue commands to the Replication Solutions Manager.
- Manage remote and local replication for an Enterprise Virtual Array.

“About this Guide” topics include:

- [Overview](#)
- [Conventions](#)
- [Getting help](#)

Overview

This section covers the following topics:

- [Intended audience](#)
- [Related documentaton](#)

Intended audience

This book is intended for use by customers who are experienced with the following:

- Writing command line scripts and using a command line.
- Managing data replication in storage systems.

Related documentation

In addition to this guide, HP provides related information:

- *HP StorageWorks Replication Solutions Manager Help*
- *HP StorageWorks Replication Solutions Manager Installation Guide*
- *HP StorageWorks Replication Solutions Manager Administration Guide*

Conventions

Conventions consist of the following:

- [Document conventions](#)
- [Text symbols](#)

Document conventions

This document follows the conventions in [Table 1](#).

Table 1. Document conventions

Convention	Element
Blue text: Figure 1	Cross-reference links
Bold	Menu items, buttons, and key, tab, and box names
<i>Italics</i>	Text emphasis and document titles in body text
Monospace font	User input, commands, code, file and directory names, and system responses (output and messages)
<i>Monospace, italic font</i>	Command-line, code variables, and user-specified values
Blue sans serif font text (http://www.hp.com)	Web site addresses
[]	Indicates that text within brackets is optional.
< >	Indicates user-specified information.
{ }	Indicates a required entry.
	Indicates an alternate choice.

Symbols used in command descriptions

- All text fields that contain white space must be enclosed in double quotes.
- Folder names can contain a maximum of 192 characters.
- Comments can contain a maximum of 128 characters, unless stated otherwise.
- All other user provided names can contain a maximum of 32 characters.
- World Wide Names are in the following format: XXXX-XXXX-XXXX-XXXX.
- World Wide LUN Names are in the following format: 6XXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX.
- The following characters are invalid in component names: <, >, [, and].
- Any amount of white space is allowed after the equals sign, including no white space

Text symbols

The following symbols may be found in the text of this guide. They have the following meanings:



Warning

Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.



Caution

Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Note

Text set off in this manner presents commentary, sidelights, or interesting points of information.

Getting help

If you still have a question after reading this guide, you can access the following HP Web site at: <http://h18006.www1.hp.com/products/storageworks/enterprise/documentation.html>.

HP storage web site

The HP Web site has the latest information on this product, as well as the latest drivers. Access storage at: <http://h18006.www1.hp.com/products/storageworks/enterprise/documentation.html>. From this Web site, select the appropriate product or solution.

Chapter 1. About the Replication Solutions Manager Command Line User Interface

HP StorageWorks Replication Solutions Manager is a single, centralized management tool that simplifies and automates the use of local and remote replication features on supported storage arrays. The interface, consisting of a graphical user interface and a Command Line User Interface (CLUI), provides consistency across a variety of supported arrays.

The CLUI allows you to perform various local and remote replication tasks, using individual commands and command scripts.

Installing the CLUI

The CLUI is installed when you install the Replication Solutions Manager software. See the *HP StorageWorks Replication Solutions Manager Installation Guide* for more information.

Configuring the CLUI

The CLUI is configured using the GUI. See the *HP StorageWorks Replication Solutions Manager Online Help and User Guide* for more information.

Accessing the CLUI

You can access the CLUI by the following methods:

- Telnet
- Command Line User Interface window in the GUI
- User-written client

Using a Telnet session

1. Open a command window.

2. Type **telnet <management_server_name> <port_number>**. Press **Enter**.

The default port number is 9000.

A login prompt appears.

3. Login with the username and password for the Replication Solutions Manager.

The Command Line User Interface prompt appears. You can enter CLUI commands or scripts using this method. The CLUI displays all responses as text.

Using the GUI

1. Launch the GUI.
2. Click **Tools > Command Line User Interface**.

The Command Line User Interface window appears. You can enter CLUI commands in the text box. The window displays all results in the lower area.

Using a user-written client

You can create a user-written client to access the CLUI. If you create a client, it must provide user authentication and issue valid commands. You can use Perl, Java, or other programming languages to create a client.

Sample Telnet client using Perl

```
use strict;
use Net::Telnet ();

my ($hostname, $line, $passwd, $pop, $username, $cmd, $res, $telnet, $port, $prompt, $ mode);

if(@ARGV < 5){
    usage();
    die "\nincorrect number of arguments\n\n";
}

($cmd) = @ARGV[4];
$hostname = $ARGV[0];
$port = $ARGV[1];
$username = $ARGV[2];
$passwd = $ARGV[3];

$mode = 1;

$telnet = new Net::Telnet (Telnetmode => 1,
    Timeout => 600,
    Cmd_remove_mode => $mode,
    Prompt => ' / [>] $ / ');
$telnet->open(Host => $hostname,
    Port => $port);

## Read connection message.
$line = stripLine();
```



```
## Send user name.
$telnet->print("$username");
## Send password.
$telnet->print("$passwd");

#read the responses up to this point (ignoring)
readResponse();

#Send the command passed in as an arg
$telnet->print("$cmd");
#remove the command echo
stripLine();

#get and show the response
$res=readResponse();
print("$res\n");

exit;

sub readResponse {
    my $resp = "";
    $line = "";
    while((index($line, ">")<0) and (index($line,"Thank you for using")<0) ){
        $line = $telnet->get;
        $resp = $resp . $line;
    }
    return $resp;
}

sub stripLine{
    $telnet->getline;
}

sub usage {

    print "\n\n\*****\n\n";
    print "Use: clui_telnet_sample.pl <host> <port> <username> <password> <\"command\">\n\n";
    print "      host - ip or name\n";
    print "      port - the port the clui is on\n";
    print "      username - admin user name\n";
    print "      password - admin password\n";
    print "      command - the command to send via the clui - in quotes\n\n";
    print "\*****\n\n";

} # end sub usage
```

Sample Socket client using Perl

```
#Copyright: Copyright (c) 2003
#Company: Hewlett-Packard Company

use strict;
use IO::Socket;

my ($hostname, $line, $passwd, $username, $res, $sock, $port, $cmd);

if(@ARGV < 5){
```

```

    usage();
    die "\nincorrect number of arguments\n\n";
}

$hostname = $ARGV[0];
$port = $ARGV[1];
$username = $ARGV[2];
$password = $ARGV[3];
$cmd = $ARGV[4];

#may want to jump timeout if slow connection or remote server
# blocks for longer than timeout val when zipping server files
$sock = new IO::Socket::INET (
    PeerAddr => $hostname,
    PeerPort => $port,
    Proto => 'tcp',
    Timeout => 60
);

die "Could not create socket: $!\n" unless $sock;

print $sock "LOGIN USERNAME=$username PASSWORD=$password\r\n";
#read the telnet login handshake and disgard
readResponse();

#Send command passed in via arg
$sock->print($cmd . "\r\n");

$line = readResponse();
print("$line\n");

#close our socket
$sock->close();

#exit success if we make it here
exit 0;

#
sub getResponse{
    #WARNING - this will block if line is not available
    my $ret = "";
    $ret = readline $sock;
    return $ret;
}

#sub to find the </commandresponse> string that is found
#after setting result type to xml
sub readResponse {
    my $resp = "";
    my $buff = '';

    $line = "";
    while(index($resp, "</commandresponse>") < 0){
        recv($sock, $buff, 1024, 0);
        $line = unpack("a1024", $buff);
        $resp = $resp . $line;
        #print("$line\n");
    }
    return $resp;
}

```

```
}

sub usage {

    print "\n\n\*****\n\n"
    print "Use: clui_socket_config_retrieval.pl <host> <port> <username> <password> <command>\n"
    print "      host - ip or name\n";
    print "      port - the port the clui is on\n";
    print "      username - admin user name\n";
    print "      password - admin password\n";
    print "      command - The command to send to the server (in quotes)\n\n";
    print "*****\n";

} # end sub usage
```

Sample SSL client using Perl

```
# a test client for testing CLUI Result Code Retrieval
#

use strict;
use IO::Socket::SSL;

my ($hostname, $line, $passwd, $username, $res, $sock, $port, $cmd);

if(@ARGV < 5){
    usage();
    die "\nincorrect number of arguments\n\n";
}

$hostname = $ARGV[0];
$port = $ARGV[1];
$username = $ARGV[2];
$passwd = $ARGV[3];
$cmd = $ARGV[4];

if(!($sock = IO::Socket::SSL->new( PeerAddr => $hostname,
    PeerPort => $port,
    Proto    => 'tcp',
    SSL_use_cert => 0,
    ))) {
    warn "unable to create socket: ", &IO::Socket::SSL::errstr, "\n";
    exit(1);
}

print $sock "LOGIN USERNAME=$username PASSWORD=$passwd\r\n";
#read login handshake and disgard
readResponse();

print $sock "sel sys LA";
readResponse();
print $sock "sel man cueball";
readResponse();

#Send command passed in via arg
$sock->print($cmd . "\r\n");
```

```
print("debug");
$line = readResponse();
print("$line\n");

#close our socket
$sock->close();

#exit success if we make it here
exit 0;

#sub to find the </commandresponse> string that is found
#after setting result type to xml
sub readResponse {
    my $resp = "";
    my $line = "";

    $line = "";
    while(index($resp, "</commandresponse") < 0){
        $line = readline $sock;
        $resp = $resp . $line;
        #print("$line\n");
    }
    return $resp;
}

sub usage {

    print "\n\n\*****\n\n";
    print "Use: clui_ssl_sample.pl <host> <port> <username> <password> <command>\n\n";
    print "        host - ip or name\n";
    print "        port - the port the clui is on\n";
    print "        username - admin user name\n";
    print "        password - admin password\n";
    print "        command - The command to send to the server (in quotes)\n\n";
    print "*****\n";

} # end sub usage
```

CLUI architecture

The CLUI is composed of several parts:

- **Client**—The user-written client or the commands issued by the user. The Client communicates with the CLUI Listener.
- **CLUI Server**—Starts the CLUI framework. The CLUI Server reads the configuration file, which describes the available ports. Typically, there is one SSL (secure) and one non-SSL (unsecure) port. Each port allows a maximum number of sessions, which is specified in the configuration file. The CLUI Server starts a CLUI Listener for each configured port.
- **CLUI Listener**—Accepts new client connections. When a new connection is created, the CLUI Listener creates a new CLUI client context object. Each client establishes its own authentication.
- **CLUI client context**—Provides the context for a client session. Each client has a client context object. When a client session ends, the CLUI context object is destroyed. The CLUI client context checks the validity of all commands issued by the user. If a user command is QUIT, LOGIN, or SET OPTION, the client context processes the command directly. Otherwise, the CLUI client context passes the valid command to the CLUI DIRECTOR.

When a command completes, the CLUI client context transforms the XML response into the specified result format. The default response format for a Telnet session is plain TEXT. All other sessions have an XML default format.

- **CLUI Director**—Determines whether a command is a help request or a valid command. If the command is `?`, `action ?`, `HELP`, or `HELP action`, the CLUI Director displays the types of commands that are supported. The CLUI Director routes the command to the appropriate CLUI Handler. If there is no appropriate CLUI handler, the CLUI Director returns an error to the client.
- **CLUI Handler**—Performs the command. After the command completes, the CLUI Handler returns an XML response.
- **Command parser**—Parses the SSSU-stye command syntax. The parser fully qualifies all actions, targets, and attributes. Therefore, if you enter abbreviations or synonyms in a command, the parser replaces these with the full command names.
- **XML command response**—All command responses are in XML and must follow a consistent layout.
- **Result code**—Contains static result values. This enforces consistent result codes throughout the CLUI framework.

Chapter 2. Command Descriptions

This chapter contains the command descriptions for all of the commands in the Replication Solutions Manager CLUI.

- [ADD DR_GROUP](#)
- [ADD HOST_AGENT](#)
- [ADD MANAGED_SET](#)
- [CAPTURE CONFIG_DATA](#)
- [CAPTURE SYSTEM DATA](#)
- [DELETE DR_GROUP](#)
- [DELETE HOST_AGENT](#)
- [DELETE JOB](#)
- [DELETE VDISK](#)
- [DELETE MANAGED_SET](#)
- [EXIT](#)
- [HELP](#)
- [LOGIN](#)
- [SELECT HOST_AGENT](#)
- [SELECT SYSTEM](#)
- [SET CLIENT](#)
- [SET DR_GROUP](#)
- [SET HOST_AGENT](#)
- [SET JOB](#)
- [SET MANAGED_SET](#)
- [SHOW DR_GROUP](#)
- [SHOW HOST_AGENT](#)
- [SHOW HOST_VOLUME](#)
- [SHOW JOB](#)
- [SHOW MANAGED_SET](#)
- [SHOW SYSTEM](#)
- [SHOW VDISK](#)

ADD DR_GROUP

Synopsis

```
a[dd] dr[_group]|drg <dr_group name>
{destination_s[ystem]|ds={destination system}| vd[isk]={vdisk name}}
[acc[essmode]|am={none|readonly}]
[com[ment]=<comment>]
[destination_d[isk_group]|ddg=<destination_disk_group>]
[destination_v[disk_name]|dvn=<destination_vdisk_name>]
[log_disk_group|ldg=<log_disk_group name>]
[wr[itemode]|wm={synchronous|asynchronous}]
```

Description

The ADD DR_GROUP command creates a data replication group.

Switches

dr_group name	Specifies the name of the DR group you are creating.
destination system	Required. Specifies the system where the replicated destination Vdisks are created. There is no default value.
vdisk	Specifies the name of the source Vdisk to be added to the new DR group. This Vdisk is replicated to the destination DR group.
accessmode	Specifies the access mode of the destination system for this DR group. You can specify <i>none</i> or <i>readonly</i> .
comment	Adds a comment to the DR group. Use quotation marks to enclose the text of your comment. The maximum number of characters is 64.
destination_disk_group	Specifies the destination disk group for the destination Vdisk. The default disk group is the default value.
destination_vdisk_name	Specifies the name of the replicated destination Vdisk that is created when the source is added to the DR group. The default is to use the same name as the source Vdisk, unless there is a naming conflict on the destination storage system. When there is a naming conflict, the destination storage system generates a Vdisk name.
log_disk_group	Specifies the log disk group for the DR group. If the name of the log disk group contains spaces, use quotation marks.
writemode	Specifies the I/O interaction between the source and destination DR group. The possible values are <i>synchronous</i> or <i>asynchronous</i> . The default value is <i>synchronous</i> .

Example

```
add dr_group bk3888 destination_system=s2333 vdisk=corpo-
ratephoto accessmode=readonly ldg=r4445o writemode=synchronous
```

ADD HOST_AGENT

Synopsis

```
a[dd] host_a[gent]|ha <host agent name>
```

Description

The ADD HOST_AGENT command adds a host agent.

Switches

host agent name	Specifies the name of the new host agent.
-----------------	---

Example

```
add host_agent newhost
```

ADD MANAGED_SET

Synopsis

```
a[dd] managed_[set]|ms|mset <managed_set name>
{dr_group|drg
| host_a[gent]|ha
| host_v[olume]|hv
| s[torage_system]|ss
| vd[isk]}
```

Description

The ADD MANAGED_SET command creates a managed set. A managed set is a user-defined collection of resources bound together for management purposes. A managed set can contain DR groups, host agents, host volumes, storage systems, and virtual disks. All members in a single managed set must be of the same type.

Switches

managed_set name	Specifies the name of the managed set you want to create.
dr_group	Creates a managed set of DR groups.
host_agent	Creates a managed set of host agents.
host_volume	Creates a managed set of host volumes.
storage_system	Creates a managed set of storage systems.
Vdisk	Creates a managed set of vdisks.

CAPTURE CONFIG_DATA

Synopsis

```
c[apture] c[onfig_data]|cfg
```

Description

The CAPTURE CONFIG_DATA command captures configuration data from the selected system. The displayed information can be used to re-create the system in the event of a failure. Jobs are not included in the configuration data.

CAPTURE SYSTEM_DATA

Synopsis

```
c[apture] s[ystem_data]|sys
```

Description

The CAPTURE SYSTEM_DATA command allows you to capture the system configuration data.

DELETE DR_GROUP

Synopsis

```
de[lete] dr[_group]|drg <dr_group name>  
[delete|del]
```

Description

The DELETE DR_GROUP command removes DR groups from the storage system.

Switches

dr_group name	Specifies the name of the DR group that you want to remove from the storage system.
delete	Specifies that the storage system deletes the destination Vdisks. If you do not include this option in the command line, the storage system detaches the Vdisks from the DR group; however, the Vdisks will remain in the destination storage system.

Example

```
de drg 5tt444 delete
```

DELETE HOST_AGENT

Synopsis

```
de[lete] host_a[gent]|ha <host agent name>
```

Description

The DELETE HOST_AGENT command deletes the host agent.

Switches

host agent name	Specifies the name of the host agent you want to delete.
-----------------	--

Example

```
de host_a newhost123
```

DELETE JOB

Synopsis

```
de[lete] job <job name>
```

Description

The DELETE JOB command deletes jobs. You cannot delete jobs which have instances that are running or paused.

DELETE VDISK

Synopsis

```
del[ete] vd[isk] <vdisk name>
```

Description

The DELETE VDISK command deletes the specified Vdisk.

DELETE MANAGED_SET

Synopsis

```
de[lete] managed[_set]|ms|mset <managed_set name>
```

Description

The DELETE MANAGED_SET command deletes the specified managed set.

EXIT

Synopsis

`exit`

Description

The EXIT command ends and exits a CLUI session

HELP

Synopsis

h[elp] <*command name*>

Description

The HELP command displays help for CLUI commands.

LOGIN

Synopsis

```
login  
{username={username} |password={password}}
```

Description

The LOGIN command authenticates the user for the current management session.

Switches

username	Required. Specifies the username to authenticate.
password	Required. Specifies the password for the username.

SELECT HOST_AGENT

Synopsis

```
sel[ect] host[_agent]<host agent>
```

Description

The SELECT HOST_AGENT command selects the host agent.

Switches

host agent	Specifies the name of the host agent you are selecting.
------------	---

Example

```
select host_agent pc34444
```

SELECT SYSTEM

Synopsis

```
sel[ect] sys[tem]<storage system name>
```

Description

The SELECT SYSTEM command selects the storage system.

Switches

storage system name	Specifies the name of the storage system which you want to manage.
---------------------	--

Example

```
sel sys corporatephotolibrary
```

SET CLIENT

Synopsis

```
set client
{res[ult_format]|rf={block_text|csv|result_code|table_text|xml}}
```

Description

The SET CLIENT command specifies the result format for the CLUI client. The client can receive the results of a command as block text, CSV, table text, or XML.

Switches

result_format Specifies the result format. The options include: *block_text*, *csv*, *result_code*, *table_text*, and *xml*.

Examples

Block text format

```
NY>show ms full
0 Success
Name.....:manset1
Type.....:VirtualDisk
Comment.....:
Dae Created 6/14/04 4:39 PM
Member Count: 0

Name.....:manset2
Type.....:Connection
Comment.....:
Date Created: 6/14/04 4:39 PM
Member Count: 0
```

CSV format

```
NY>show ms full
RC=0 Success
Name,Type,Comment,Date Created,Member Count,
manset1,VirtualDisk,,6/14/04 4:39 PM,0,
manset2,Connection,,6/14/04 4:39 PM,0,
```

Result code format

```
NY>show ms full
RC=0 Success
```

Table text format

```
NY>show ms full
0 Success
Name      Type      Comment Date Created      Member Count
-----
manset1 VirtualDisk      6/14/04 4:39 PM 0
manset2 Connection    6/14/04 4:39 PM 0
```


XML format

```
NY>sho ms full
<?xml version="1.0" encoding="UTF-8"?>
<commandresponse>
  <resultcode>0 Success</resultcode>
  <command>SHOW MANAGED_SET FULL</command>
  <description>Managed set SHOW</description>
  <table>
    <heading>
      <column>Name</column>
      <column>Type</column>
      <column>Date created</column>
      <column>Member Count</column>
    </heading>
    <row>
      <column>manset1</column>
      <column>VirtualDisk</column>
      <column>6/14/04 4:39 PM</column>
      <column>0</column>
    </row>
    <row>
      <column>manset2</column>
      <column>Cnnection</column>
      <column>6/14/04 4:39 PM</column>
      <column>0</column>
    </row>
  </table>
</commandresponse>
```

SET DR_GROUP

Synopsis

```
set dr[_group] | drg <dr_group name>
[acc[essmode] | am={none|readonly}]
[add[_vdisk] | av=<vdisk name>]
[com[ment]=<comment>]
[del[ete]]
[failo[ver] | fo]
[fail[safe] | fs]
[na[me]=<new_dr_group_name>]
[no[fail]safe] | nfd]
[nos[uspend] | ns]
[rem[ove_vdisk] | remvd | rvd=<vdisk name>]
[sus[pend]]
[wr[itemode] | wm={synchronous|asynchronous}]
```

Description

The SET DR_GROUP command modifies the properties of a DR group.

Switches

dr_group name	Specifies the name of the DR group you are modifying.
accessmode	Specifies the access mode of the destination storage system for the DR group. The values are <i>none</i> or <i>readonly</i> .
add_vdisk	Specifies the name of the source Vdisk that you are adding to the DR group. When you use the <i>add_vdisk</i> switch, the software automatically creates the destination Vdisk in the destination storage system. When you add a Vdisk, you can specify two additional switches: <i>destination_disk_group</i> and <i>destination_vdisk_name</i> .
comment	Adds a comment to the DR group. Enclose the comment text in quotation marks if there are spaces in the comment. The maximum number of characters is 64.
delete	Removes the destination Vdisk. If you do not specify the <i>delete</i> switch, the software detaches the Vdisk from the DR group; however, the Vdisk remains in the storage system.
failover	Reverses the roles of the DR group. The source becomes the destination, and the destination becomes the source.
failsafe	Halts all write operations, if the connection between the source and destination storage systems fail.
name	Modifies the name of the DR group.
nofailsafe	Logs all write operations, if the connection between the source and destination storage systems fail. After the connection is operational, the software synchronizes the source and destination DR groups.
nosuspend	Resumes replications of data from the source to the destination.
remove_vdisk	Specifies the name of the source Vdisk that you want to remove from the DR group. The destination Vdisk is also removed from the DR group, but it is not

	deleted. The destination Vdisk remains in the destination storage system. Use the <i>delete</i> switch to permanently remove the destination Vdisk from the storage system.
suspend	Pauses data replication from the source to the destination.
writemode	Indicates the type of I/O interaction between the source and destination DR group. The possible values are <i>synchronous</i> and <i>asynchronous</i> .

Example

```
set dr_group group455 name=gr100 wm=asynchronous
```

SET HOST_AGENT

Synopsis

```
set host_a[gent]|ha <host agent name>
[com[ment]]=<comment>
[mount_v[olume]|mv=<mount volumn>]
[re[scan]]
[ru[n]=<command>]
{mount_p[oint]|mp={mount point}}
[unmount_v[olume]uv=<volume name>]
```

Description

The SET HOST_AGENT command modifies the properties of the host agent.

Switches

host agent name	Specifies the name of the host agent you want to modify.
comment	Adds a comment to the host agent.
mount_volume	Specifies the host volume to mount on the host. When you use this switch, the <i>mount_point</i> switch is required.
rescan	Scans the bus for any new Vdisks.
run	Specifies a command to run on the host. The returned information includes the result code from the host agent, the command's result code, the host agent's result, the command's result, the system error, and the system out information for the command.
mount_point	Specifies the mount point. Use this option only if you use the <i>mount_volume</i> or <i>unmount_volume</i> switches.
unmount_volume	Unmount the storage from the host. If you use this option, the <i>mount_point</i> switch is required.

SET JOB

Synopsis

```
set job <job name or instance name>
{[ab[ort]]
|[cont[inue]]
|[des[cription]=<new description>]
|[name=<new name>]
|[pause]}
|{run}
|[mode={validate|normal|skip_validation}]
|[nowait]
|[wait]}
```

Description

The SET JOB command modifies the properties of a job.

Switches

abort	Stops the job operation.
con- tinue	Resumes the job instance.
descrip- tion	Changes the job's description.
name	Changes the name of the job.
pause	Pauses the job instance.
run	Runs the job.
nowait	Launches the job without waiting for a job to complete.
wait	Waits for the job to complete before returning the command prompt. This is the default behavior.

SET MANAGED_SET

Synopsis

```
set managed[_set}|ms|mset <managed_set name>
[a[ddmember]|am=<member_name>]
[com[ment]=<comment>]
[failo[ver]|fo]
[fails[afe]|fs]
[h[ost]=<host name>]
[na[me]=<name>]
[nof[ailsafe]|ns}
[nos[uspend]|ns]
[rem{ovemember}|rm=<member name>]
[sus[pend]]
```

Description

The SET MANAGED_SET command modifies the properties of a managed set.

Switches

managed_set name	Specifies the name of the managed set you want to modify.
addmember	Adds a member to the managed set. The name must correspond to an object of the same type that is contained in the managed set. For example, you can only add a DR group to a managed set that contains DR groups. Use quotation marks if the name contains spaces.
comment	Modifies the comment text for a managed set.
failover	Commands the interface to failover all members of the managed set.
failsafe	Enables failsafe mode for all members of a managed set.
host	Specifies the host name where the host volume exists. This switch is required if the <i>addmember</i> switch is used.
name	Renames the managed set. Use quotation marks if the name contains spaces.
nofailsafe	Disables the failsafe mode for all of the members of a managed set.
nosuspend	Resumes replication for all members in the managed set.
removemember	Removes a member from the managed set. Use quotation marks if the name contains spaces.
suspend	Suspends replication on all members in the managed set.

SHOW DR_GROUP

Synopsis

```
sho[w] dr[_group] | drg <dr_group name>  
[f[ull]]  
[l[ist]]  
[m[embers]]
```

Description

The SHOW DR_GROUP command displays the properties of the DR group.

Switches

dr_group name	Specifies the name of the DR group.
full	Use this switch instead of the <i>DR group name</i> to show the properties of all data replication groups in the storage system.
list	Lists only the names of the DR groups. The software does not display detailed information.
members	Displays the members of the DR group.

Example

```
show dr_group full
```

SHOW HOST_AGENT

Synopsis

```
sho[w] host_agent|ha <host_agent name>
[cluster]
[f[ull]]
[hba=<hba name>]
[hbas]
[host_volume|hv=<host volume name>]
[host_volumes|hvs]
[l[ist]]
[mount_point|mp=<mount point>]
[mount_points|mps]
```

Description

The SHOW HOST_AGENT command shows the properties of the host agent.

Switches

host agent name	Specifies the name of the host agent you want to view.
cluster	Shows the cluster information for the specified host agent.
full	If you use <i>full</i> instead of the <i>host agent name</i> , the interface shows the details of all the host agents.
hba	Shows information for the specified Host Bus Adapter.
hbas	Lists the Host Bus Adapters on the host rather than the default volume information.
host_volume	Shows information for the specified host volume on the host.
list	Displays the names of the host agents. The detailed information is not displayed.
mount_point	Shows information for the specified mount point on the host.
mount_points	Shows the mount points on the host instead of the default volume information.

Example

```
show host_agent full
```


SHOW HOST_VOLUME

Synopsis

```
sho[w] host_vol[ume]|hostvol <host_volume name>
[f[ull]]
[h[ost]=<host name>]
[l[ist]]
[m[ounts]]
[vd[isks]]
```

Description

The SHOW HOST_VOLUME command displays the host volume properties.

Switches

host volume name	Specifies the name of the host volume you want to view.
full	Use <i>full</i> instead of <i>host volume_name</i> to show details for all the host volumes.
host	Required. Specifies the host name where the host volume exists.
list	Lists the names of the host volumes. The interface does not display the detailed information.
mounts	Shows all mounts for the specified host volume.
vdisk	Shows all virtual disks for the specified host volume.

SHOW JOB

Synopsis

```
sho[w] job <job name>  
[f[ull]]  
[i[nstances]]  
[l[ist]]  
[s[tandaloneops]|sao]
```

Description

The SHOW JOB command displays the job's properties.

Switches

job name	Specifies the job for which to display information.
full	Shows details about all of the jobs. If you use this switch, you do not have to specify the <i>job name</i> .
instances	Shows instance information for each job run.
list	Displays only the names of the jobs, not details.
standaloneops	Shows the standalone operations. If you use this switch, you do not have to specify the <i>job name</i> .

SHOW MANAGED_SET

Synopsis

```
sho[w] managed[_set} |ms|mset <managed_set name>  
[f[ull]]  
[l[ist]]  
[m[embers]]
```

Description

The SHOW MANAGED-SET commands shows the properties of a managed set.

Switches

managed_set name	Specifies the name of the managed set for which you want to see details.
full	If this switch is used instead of the managed set name, the interface shows the details of all the managed sets.
list	Displays only the names of the managed sets. The interface does not display details.
members	Lists the members of the managed set, not the properties of the managed set.

SHOW SYSTEM

Synopsis

```
sho[w] sys[tem] <system name>  
[f[ull]]  
[l[ist]]  
[man[aged_set_member] | ms_member | msm]
```

Description

The SHOW SYSTEM command shows the selected system’s properties.

Switches

system name	Specifies the system for which to display information.
full	If you use <i>full</i> instead of the <i>system name</i> , the interface shows all of the systems, not an individual system.
list	Displays the names of the systems. The detailed information is not displayed. If <i>full</i> or the <i>system name</i> is excluded, <i>list</i> is the default.
managed_set_member	Shows information for the managed sets that each system is a member of.

SHOW VDISK

Synopsis

```
sho[w] vd[isk] <vdisk name>
[f[ull]]
[l[ist]]
[man[aged_set_member]|ms_member|msm]
[perf[ormance]]
[pres[entation]]
[repl[ication]]
```

Description

The SHOW VDISK command shows the selected system's properties.

Switches

vdisk name	Specifies the Vdisk for which to display information.
full	If you use <i>full</i> instead of the <i>Vdisk name</i> , the interface shows all of the Vdisks, not an individual Vdisk.
list	Displays the names of the Vdisks. The detailed information is not displayed. If <i>full</i> or the <i>Vdisk name</i> is excluded, <i>list</i> is the default.
managed_set_member	Shows information for the managed sets that each Vdisk is a member of.
performance	Shows performance attributes for the Vdisk.
presentation	Shows presentation attributes for the Vdisk.
replication	Shows replication attributes for the Vdisk.

Appendix A. XML Command Response Format

The XML command response object creates the XML response. The command response can contain multiple tables, rows, heading columns, and row columns. The heading columns are similar to tag/value pairs. For every column in the heading, you should include a column in each row. This will allow CSV and other output formats to properly format the data.

Here is a sample:

```
<?xml version="1.0" encoding="utf-8"?>

<commandresponse>
  <resultcode>value</resultcode>
  <command>original command</command>
  <description>description of command</description>
  <table>
    <heading>
      <column>heading column</column>
      <column>heading column</column>
    </heading>
    <row>
      <column>row column</column>
      <column>row column</column>
    </row>
    <zipfile>
      <bindata>
        <![CDATA[data]]>
      </bindata>
    </zipfile>
  </table>
</commandresponse>
```


Appendix B. CLUI Handler XML Configuration File

The CLUI Handler configuration file describes the CLUI Handler and supported commands to the CLUI framework. The configuration file must have a .cluihandlerxml extension. Here is a sample configuration file:

```
<cluihandler frameworkHelpEnabled="true">
  <codebase>com.hp.my.package.structure.MyCluiHandler</codebase>
  <priority>normal</priority>
  <command hidden="true">
    <action>A*DD
      <help>Add a managed set.</help>
    </action>

    <target>MANAGED*_SET
      <synonym>MS</synonym>
      <synonym>MSET</synonym>
      <targetValidValue>Managed_Set_Name</targetValidValue>
      <help>Use the ADD MANAGED_SET command to create a logical group
that contains specific entries based on the type of the managed set specified.</help>
    </target>

    <exclusiveGroup required="true">
      <switch required="true">DR_GROUP
        <synonym>DRG</synonym>
        <help>Contains data replication group objects</help>
      </switch>

      <switch required="true">CON*NECTION
        <help>Contains connection objects</help>
      </switch>

      <switch required="true">HOST_A*GENT
        <synonym>HA</synonym>
        <help>Contains host objects</help>
      </switch>
```

```
<switch required="true">HOST_V*OLUME
  <synonym>HV</synonym>
  <help>Contains host volume objects</help>
</switch>

<switch required="true">S*TORAGE_SYSTEM
  <synonym>SS</synonym>
  <help>Contains storage system objects</help>
</switch>

<switch required="true">VD*ISK
  <help>Contains virtual disk objects</help>
</switch>
</exclusiveGroup>

</command></cluihandler>
```

Index

A

- ADD DR_GROUP, 25
- ADD HOST_AGENT, 26
- ADD MANAGED_SET, 27
- audience, 9

C

- CAPTURE CONFIG_DATA, 28
- CAPTURE SYSTEM_DATA, 29
- conventions
 - document, 11
 - text symbols, 12

D

- DELETE DR_GROUP, 30
- DELETE HOST_AGENT, 31
- DELETE JOB, 32
- DELETE MANAGED_SET, 34
- DELETE VDISK, 33
- document
 - conventions, 11
 - related documentation, 9

E

- EXIT, 35

H

- HELP, 36
- help, obtaining, 13
- HP
 - storage Web site, 13

L

LOGIN, 37

R

related documentation, 9

S

SELECT HOST_AGENT, 38

SELECT SYSTEM, 39

SET CLIENT, 40

SET DR_GROUP, 42

SET HOST_AGENT, 44

SET JOB, 45

SET MANAGED_SET, 46

SHOW DR_GROUP, 47

SHOW HOST_AGENT, 48

SHOW HOST_VOLUME, 49

SHOW JOB, 50

SHOW MANAGED_SET, 51

SHOW SYSTEM, 52

SHOW VDISK, 53

symbols in text, 12

system data, 29

T

text symbols, 12

W

Web sites

 HP storage, 13